## SEQUENCE LISTING

<110> Aukerman, Lea Long, Li Luqman, Mohammad Yabannavar, Asha Zaror, Isabel

<120> Use of Antagonist Anti-CD40 Monoclonal Antibodies for Treatment of Chronic Lymphocytic Leukemia

<130> PP22708.002 (284267) <150> 60/611,794 <151> 2004-09-21 <150> 60/565,710 <151> 2004-04-27 <150> 60/525,579 <151> 2003-11-26 <150> 60/517,337 <151> 2003-11-04 <160> 12 <170> FastSEQ for Windows Version 4.0 <210> 1 <211> 720 <212> DNA <213> Artificial Sequence <220> <223> Coding sequence for light chain of CHIR-12.12 human anti-CD40 antibody <221> CDS <222> (1)...(720) atg gcg ctc cct gct cag ctc ctg ggg ctg cta atg ctc tgg gtc tct Met Ala Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Ser 10 5 gga tcc agt ggg gat att gtg atg act cag tct cca ctc tcc ctg acc Gly Ser Ser Gly Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Thr gtc acc cct gga gag ccg gcc tcc atc tcc tgc agg tcc agt cag agc Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser 40 ctc ctg tat agt aat gga tac aac tat ttg gat tgg tac ctg cag aag 192 Leu Leu Tyr Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys cca ggg cag tot cca cag gtc ctg atc tot ttg ggt tot aat cgg gcc Pro Gly Gln Ser Pro Gln Val Leu Ile Ser Leu Gly Ser Asn Arg Ala tcc ggg gtc cct gac agg ttc agt ggc agt gga tca ggc aca gat ttt 288 Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe

85

90

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Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
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tgc atg caa gct cga caa act cca ttc act ttc ggc cct ggg acc aaa
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Cys Met Gln Ala Arg Gln Thr Pro Phe Thr Phe Gly Pro Gly Thr Lys
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       115
gtg gat atc aga cga act gtg gct gca cca tct gtc ttc atc ttc ccg
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Val Asp Ile Arg Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
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                    150
145
ctg aat aac ttc tat ccc aga gag gcc aaa gta cag tgg aag gtg gat
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Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
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                                                                   576
aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca gag cag gac
Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
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age aag gae age ace tae age ete age ace etg acg etg age aaa
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Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc acc cat cag
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Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
                        215
                                            220
ggc ctg agc tcg ccc gtc aca aag agc ttc aac agg gga gag tgt tag
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Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser
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        35
Leu Leu Tyr Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys
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Pro Gly Gln Ser Pro Gln Val Leu Ile Ser Leu Gly Ser Asn Arg Ala
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Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
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                                                         95
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
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            100
Cys Met Gln Ala Arg Gln Thr Pro Phe Thr Phe Gly Pro Gly Thr Lys
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                            120
Val Asp Ile Arg Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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155
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Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
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                                 185
            180
Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
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Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
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Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
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ggcaaggggc tggagtgggt ggcagttata tcatatgagg aaagtaatag ataccatgca 240
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caaatgaaca gcctcagaac tgaggacacg gctgtgtatt actgtgcgag agatgggggt 360
ataqcaqcac ctgggcctga ctactggggc cagggaaccc tggtcaccgt ctcctcagca 420
agtaccaagg gcccatccgt cttccccttg gcgcccgcta gcaagagcac ctctgggggc 480 acageggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
aactcaggeg ceetgaceag eggegtgeae acetteeegg etgteetaca gteeteagga 600
ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttgggcac ccagacctac 660
atctgcaacg tgaatcacaa gcccagcaac accaaggtgg acaagagagt tggtgagagg 720
ccagcacagg gagggagggt gtctgctgga agccaggctc agcgctcctg cctggacgca 780
teceggetat geagteecag tecagggeag caaggeagge ecegtetgee tetteaceeg 840
gaggeetetg eccgeeceae teatgeteag ggagagggte ttetggettt tteeceagge 900
tctgggcagg cacaggctag gtgcccctaa cccaggccct gcacacaaag gggcaggtgc 960
tgggctcaga cctgccaaga gccatatccg ggaggaccct gcccctgacc taagcccacc 1020
ccaaaggcca aactetecae teecteaget eggacacett eteteetee agattecagt 1080
aactcccaat cttctctctg cagagcccaa atcttgtgac aaaactcaca catgcccacc 1140
gtgcccaggt aagccagccc aggcctcgcc ctccagctca aggcgggaca ggtgccctag 1200
aqtagcctgc atccagggac aggccccagc cgggtgctga cacgtccacc tccatctctt 1260
cctcagcacc tgaactcctg gggggaccgt cagtcttcct cttcccccca aaacccaagg 1320
acacceteat gateteegg acceetgagg teacatgegt ggtggtggae gtgageeacg 1380
aagaccctga ggtcaagttc aactggtacg tggacggcgt ggaggtgcat aatgccaaga 1440
caaagccgcg ggaggagcag tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc 1500
tgcaccagga ctggctgaat ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc 1560
cagcccccat cgagaaaacc atctccaaag ccaaaggtgg gacccgtggg gtgcgagggc 1620
cacatggaca gaggeegget eggeeeacce tetgeeetga gagtgacege tgtaccaace 1680
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gtgctggact ccgacggctc cttcttcctc tatagcaagc tcaccgtgga caagagcagg 1920
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Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
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Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
                    55
Glu Trp Val Ala Val Ile Ser Tyr Glu Glu Ser Asn Arg Tyr His Ala
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                70
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Ile
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            8.5
                               90
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Thr Glu Asp Thr Ala Val
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         100
Tyr Tyr Cys Ala Arg Asp Gly Gly Ile Ala Ala Pro Gly Pro Asp Tyr
                       120
                                          125
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Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
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Pro Ser Val Phe Pro Leu Ala Pro Ala Ser Lys Ser Thr Ser Gly Gly
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                           155
Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
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                               170
                                                 175
Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
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Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
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Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
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Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys
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Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
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Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
                           265
          260
Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Asp Val
                                       285
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Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
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                                       300
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
                                  315
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Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
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           325
                                330
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
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          340
Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
                                         365
                         360
Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
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                                       380
Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
                                 395
                 390
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                             410
           405
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
                            425
           420
Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
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Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
Leu Ser Pro Gly Lys
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<223> Heavy chain of variant of CHIR-12.12 human anti-CD40 antibody

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<211> 239
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           20
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Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser
                                               45
                           40
Leu Val His Ser Asp Gly Asn Thr Tyr Leu Asn Trp Leu Gln Gln Arg
                                           60
Pro Gly Gln Pro Pro Arg Leu Leu Ile Tyr Lys Phe Phe Arg Arg Leu
                   70
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ala Gly Thr Asp Phe
                                   90
               85
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr
                               105
Cys Met Gln Val Thr Gln Phe Pro His Thr Phe Gly Gln Gly Thr Arg
                           120
                                               125
Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
                                           140
                       135
Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
                                    155
                  150
Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
                                                       175
               165
                                  170
Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
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          180
Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
                          200
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Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
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Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
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Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
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Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu
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Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Ser
                                        7.5
                    70
Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser
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Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
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                                105
Tyr Tyr Cys Ala Arg Gly Thr Ala Ala Gly Arg Asp Tyr Tyr Tyr Tyr
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Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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PCT/US2004/036954 WO 2005/044304

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Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ala Ser Lys
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               165
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
                              185
                                                 190
          180
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
                         200
                                             205
       195
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
                                          220
                      215
Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
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Arg Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
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Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
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           260
Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
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                                             285
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Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
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                                          300
Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
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Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
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His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
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Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
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Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
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                                          380
Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
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Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
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Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
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           420
Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
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                           440
Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
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Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
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     antibody
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           20
Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
                          40
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Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu

Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Ser

Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser

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Tyr Tyr Cys Ala Arg Gly Thr Ala Ala Gly Arg Asp Tyr Tyr Tyr Tyr
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Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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  130
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
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Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
             165 170
                                                   175
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
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                             185
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
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Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
                                        220
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Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
                            235
               230
Arg Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
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             245
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Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
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                             265
                                               270
Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
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Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
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Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
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Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
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His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
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Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
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Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
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Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
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                                    395
Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
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                                 410
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Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
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          420
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Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
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Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
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Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
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<211> 612
<212> DNA
<213> Homo sapiens
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               5
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ata Ile	aac Asn	agt Ser 35	cag Gln	tgc Cys	tgt Cys	tct Ser	ttg Leu 40	tgc Cys	cag Gln	cca Pro	gga Gly	cag Gln 45	aaa Lys	ctg Leu	gtg Val	144
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agc Ser 65	gaa Glu	ttc Phe	cta Leu	gac Asp	acc Thr 70	tgg Trp	aac Asn	aga Arg	gag Glu	aca Thr 75	cac His	tgc Cys	cac His	cag Gln	cac His 80	240
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						tgc Cys										336
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ttt Phe	ggg Gly 130	gtc Val	aag Lys	cag Gln	att Ile	gct Ala 135	aca Thr	Gly ggg	gtt Val	tct Ser	gat Asp 140	acc Thr	atc Ile	tgc Cys	gag Glu	432
ccc Pro 145	tgc Cys	cca Pro	gtc Val	ggc Gly	ttc Phe 150	ttc Phe	tcc Ser	aat Asn	gtg Val	tca Ser 155	tct Ser	gct Ala	ttc Phe	gaa Glu	aaa Lys 160	480
tgt Cys	cac His	cct Pro	tgg Trp	aca Thr 165	agg Arg	tcc Ser	cca Pro	gga Gly	tcg Ser 170	gct Ala	gag Glu	agc Ser	cct Pro	ggt Gly 175	ggt Gly	528
gat Asp	ccc Pro	cat His	cat His 180	ctt Leu	cgg Arg	gat Asp	cct Pro	gtt Val 185	tgc Cys	cat His	cct Pro	ctt Leu	ggt Gly 190	gct Ala	ggt Gly	576
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			20			Ser	Leu	25				Gln	30			
Ser	_	35 Cys	Thr	Glu	Phe	Thr	40 Glu	Thr	Glu	Cys		45 Pro	Cys	Gly	Glu	
Ser	50 Glu	Phe	Leu	Asp	Thr	55 Trp	Asn	Arg	Glu	Thr	60 His	Cys	His	Gln	His	

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Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr

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90
               8.5
Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
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                                105
Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
                                                125
       115
                            120
Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
                       135
                                            140
Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
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                   150
Cys His Pro Trp Thr Arg Ser Pro Gly Ser Ala Glu Ser Pro Gly Gly
                                                        175
                                    170
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Asp Pro His His Leu Arg Asp Pro Val Cys His Pro Leu Gly Ala Gly
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Leu Tyr Gln Lys Gly Gly Gln Glu Ala Asn Gln
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Met Val Arg Leu Pro Leu Gln Cys Val Leu Trp Gly Cys Leu Leu Thr
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                                     10
                                                                   96
get gtc cat cca gaa cca ccc act gca tgc aga gaa aaa cag tac cta
Ala Val His Pro Glu Pro Pro Thr Ala Cys Arg Glu Lys Gln Tyr Leu
             20
ata aac agt cag tgc tgt tct ttg tgc cag cca gga cag aaa ctg gtg
                                                                   144
Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
                                                                   192
agt gac tgc aca gag ttc act gaa acg gaa tgc ctt cct tgc ggt gaa
Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
agc gaa ttc cta gac acc tgg aac aga gag aca cac tgc cac cag cac
                                                                   240
Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His
                     70
aaa tac tgc gac ccc aac cta ggg ctt cgg gtc cag cag aag ggc acc
Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
                                      90
tca gaa aca gac acc atc tgc acc tgt gaa gaa ggc tgg cac tgt acg
                                                                    336
Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
            100
agt gag gcc tgt gag agc tgt gtc ctg cac cgc tca tgc tcg ccc ggc
Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
ttt ggg gtc aag cag att gct aca ggg gtt tct gat acc atc tgc gag
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Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
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145					150					155					160	
tgt Cys	cac His	cct Pro	tgg Trp	aca Thr 165	agc Ser	tgt Cys	gag Glu	acc Thr	aaa Lys 170	gac Asp	ctg Leu	gtt Val	gtg Val	caa Gln 175	cag Gln	528
gca Ala	ggc Gly	aca Thr	aac Asn 180	aag Lys	act Thr	gat Asp	gtt Val	gtc Val 185	tgt Cys	ggt Gly	ccc Pro	cag Gln	gat Asp 190	cgg Arg	ctg Leu	576
aga Arg	gcc Ala	ctg Leu 195	gtg Val	gtg Val	atc Ile	ccc Pro	atc Ile 200	atc Ile	ttc Phe	ggg Gly	atc Ile	ctg Leu 205	ttt Phe	gcc Ala	atc Ile	624
ctc Leu	ttg Leu 210	gtg Val	ctg Leu	gtc Val	ttt Phe	atc Ile 215	aaa Lys	aag Lys	gtg Val	gcc Ala	aag Lys 220	aag Lys	cca Pro	acc Thr	aat Asn	672
aag Lys 225	gcc Ala	ccc Pro	cac His	ccc Pro	aag Lys 230	cag Gln	gaa Glu	ccc Pro	cag Gln	gag Glu 235	atc Ile	aat Asn	ttt Phe	ccc Pro	gac Asp 240	720
gat Asp	ctt Leu	cct Pro	ggc Gly	tcc Ser 245	aac Asn	act Thr	gct Ala	gct Ala	cca Pro 250	gtg Val	cag Gln	gag Glu	act Thr	tta Leu 255	cat His	768
gga Gly	tgc Cys	caa Gln	ccg Pro 260	gtc Val	acc Thr	cag Gln	gag Glu	gat Asp 265	ggc Gly	aaa Lys	gag Glu	agt Ser	cgc Arg 270	atc Ile	tca Ser	816
~+ ~	636	aaa	202	cad	tga											834
	_		_	Gln	*											
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<pre>Val  &lt;21 &lt;21 &lt;21 &lt;40 Met 1</pre>	Gln 0> 1 1> 2 2> P 3> H 0> 1 Val	Glu 275 2 77 RT omo 2 Arg	Arg sapi Leu	ens Pro 5	* Leu				10	Trp				15		
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 Arg
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